

# Work Order ID 86035

June-19-12 4:07:50 PM

**\*86035\***

Page 1

Item ID: D3499-042

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Cable Guard Assembly

Start Date: 19/06/2012 Start Qty: ~~400~~ 2

**\*4\***

Cust Item ID:

Required Date: 03/07/2012 Req'd Qty: 4.00

**\*4\***

Customer:

Reference:

Approvals: Process Plan: *MLJ*

Date: *12/06/20* Tooling:

Date:

Run Start **\*NR1\***

QC:

Date: SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
<b>Draw Nbr</b>	<b>Revision Nbr</b>								
D3499	Rev C								
100	Pick Kit	0.00							
<b>*100*</b>									
Packaging	Memo	0.00							
Packaging									
110		0.00							
<b>*110*</b>									
Small Fab	Memo	0.00							
Small Fab	1- assemble per dwg								
120	QC5- Inspect part completeness to step on W/O	0.00							
<b>*120*</b>									
QC	Memo	0.00							
Quality Control									

*2* *FF* *12-07-06*

*2* *FF* *12-07-06*

*5/26/06*

*(R)*

*1*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 86035**

June-19-12 4:07:50 PM

**\*86035\***

Page 2

Item ID: D3499-042

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Cable Guard Assembly

Start Date: 19/06/2012 Start Qty: 4.00

**\*4\***

Cust Item ID:

Required Date: 03/07/2012 Req'd Qty: 4.00

**\*4\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130

Identify as per dwg & Stock Location **207**

0.00

**\*130\***

Packaging

Memo

0.00

Packaging

**(20)****12-7-11sf**

140

QC21- Final Inspection - Work Order Release

0.00

**\*140\***

QC

Memo

0.00

Quality Control

**ck 12/7/13****umf 12-07-12**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

June-19-12 4:07:53 PM

Page 1

Work Order ID: 86035

\*86035\*

Parent Item: D3499-042

\*D3499-042\*

Parent Item Name: Cable Guard Assembly

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 4.00

Required Qty: 4.00

## Comments:

IPP Rev:A New Issue 06-05-05 JLM

IPP Rev:B As per Rev B 06-08-31 JLM

IPP Rev:C as

per dwg revC DD 10.02.23 verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN3C5A		Purchased	No			100	Each	1,224.000	2	8			

\*AN3C5A\*

Bolt

\*\*

② FF 12-07-06

## Location

## Loc Qty

## Loc Code

FP001

7

115835

7

ST350

1217

116419

28

117343

13

117764

7

117872

2

119749

23

120423

28

121068

12

~~121255~~

500

121444

104

121708

500

84

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

June-19-12 4:07:53 PM

Page 2

Work Order ID: 86035

Parent Item: D3499-042

Parent Item Name: Cable Guard Assembly

\*86035\*

\*D3499-042\*

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 4.00

Required Qty: 4.00

AN3C6A

Purchased

No

100

Each

359.0000

3

12

\*AN3C6A\*

BOLT

\*\*

② FF 12-07-06

Location

Loc Qty

Loc Code

FP001

1

111982

1

ST351

358

111982

2

116419

23

116549

2

116704

12

117619

10

117688

1

117872

5

118422

13

119449

21

120423

3

120693

126

121682

140

126

AN960C10L

NAS1149C0332

Purchased

No

100

Each

21.0000

10

40

\*AN960C10I \*

washer

\*\*

② FF 12-07-06

Location

Loc Qty

Loc Code

ST

122063

21

107534

21

20

June-19-12 4:07:53 PM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

June-19-12 4:07:53 PM

Page 3

Work Order ID: 86035

Parent Item: D3499-042

Parent Item Name: Cable Guard Assembly

\*86035\*

\*D3499-042\*

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 4.00

Required Qty: 4.00

D3499-2

Manufactured No

100 Each 4.0000 1 4

\*D3499-2\*

Mounting Plate

\*\*

② FF 12-07-06

## Location

## Loc Qty

## Loc Code

ST166

2

84097

2

2

ST207

2

44903

2

D3499-3

Manufactured No

100 Each 2.0000 1 4

\*D3499-3\*

Plastic Cable Guard

\*\*

② FF 12-07-06

## Location

## Loc Qty

## Loc Code

ST207

2

01541

2

2

75365

D3499-5

Manufactured No

100 Each 15.0000 2 8

\*D3499-5\*

Placard

\*\*

② FF 12-07-06

## Location

## Loc Qty

## Loc Code

ST050

15

46759

1

84096

14

4

D3672-1

Manufactured No

100 Each 1,416.000 5 20

\*D3672-1\*

Phenolic Washer

\*\*

② FF 12-07-06

## Location

## Loc Qty

## Loc Code

ST060

1416

72229

4

76277

13

80369

389

10

83608

500

85222

510

June-19-12 4:07:54 PM

Shop Packet Print

Page 3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

June-19-12 4:07:54 PM

Page 4

Work Order ID: 86035

Parent Item: D3499-042

Parent Item Name: Cable Guard Assembly

\*86035\*

\*D3499-042\*

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 4.00

Required Qty: 4.00

MS21043-3

Purchased

No

100

Each

1,319.000

5

20

**\*MS21043-3\***

Nut

\*\*

② FF 12-07-08

Location

Loc Qty

Loc Code

FG

72

103691

72

ST301

1247

118077

2

118614

51

118686

30

119758

20

121255

188

121708

956

20

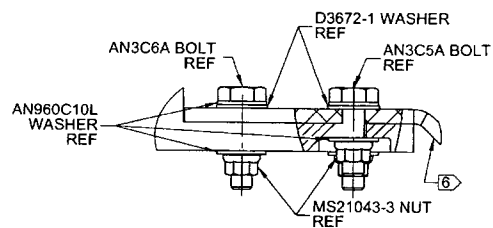
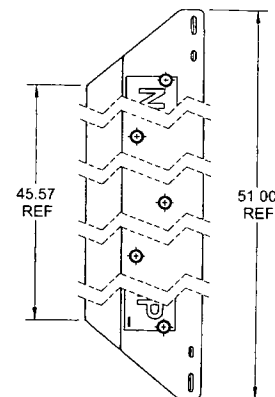
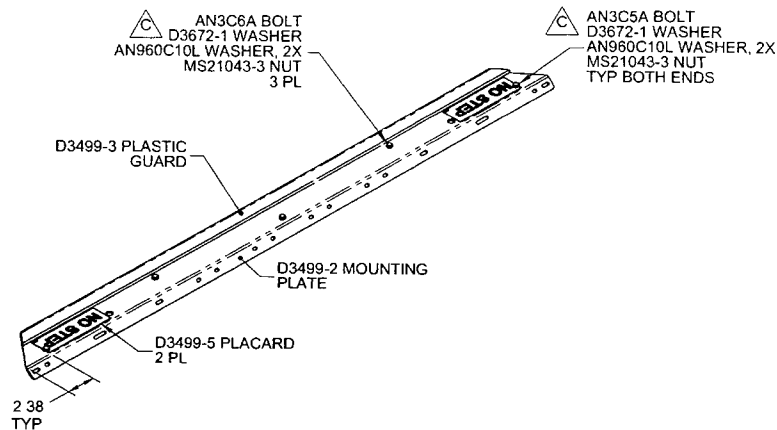
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

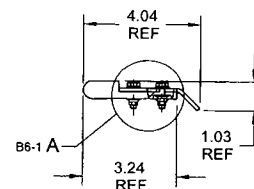
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**DETAIL A** B4-1  
SCALE 4X



**D3499-042 CABLE GUARD ASSEMBLY**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3499-041/-042" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 3.90 lbs

ITEM	QTY	P/N	DESCRIPTION
1	X	D3499-042	CABLE GUARD ASSEMBLY
2	1	D3499-2	MOUNTING PLATE
3	1	D3499-3	PLASTIC GUARD
4	2	D3499-5	PLACARD
5	2	AN3C5A	BOLT
6	3	AN3C6A	BOLT
7	10	AN960C10L	WASHER
8	5	MS21043-3	NUT
9	5	D3672-1	WASHER

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER

NO 86035 M/J  
12/06/20

**RELEASED**  
2010-02-02  
MD

C	DRAWING UPDATED TO CURRENT STANDARDS. 3.245 WAS 3.25 (ZN B8-3); 3.24 WAS 3.25 (ZN D3-3); REVISE TOLERANCE & 2.01 WAS 2.00 (ZN D3-3); D3672-1 WAS WAS1515HSL (ZN D3-1, D5-1, D7-1); ADD IDENTIFY NOTE (ZN A8-1), REF NCR-09-045	RF	09.06.19
B	RE-DESIGN D3499-2F/-3	MB	06.08.15
A	NEW ISSUE	MB	06.04.11
REV	DESCRIPTION	BY	DATE
DESIGN			
DRAWN	RF		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	09.06.19		

**DART AEROSPACE USA, INC.**  
PORT HADLOCK, WA

DRAWING NO. REV. C  
D3499 SHEET 1 OF 4  
TITLE SCALE  
CABLE GUARD NTS

COPYRIGHT © 2006 BY DART AEROSPACE USA, INC.  
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

[illegible]

Technical drawing of a long, narrow mechanical component, likely a duct or pipe section. The drawing shows a side view with a central horizontal section and two angled end sections. Key dimensions and features include:

- Overall Length:** 51.00 REF (Reference).
- Overall Width:** 2.79 (REF).
- Internal Features:** The central section contains several small circular holes and larger circular features. The angled end sections also contain circular features.
- Internal Structure:** Dashed lines indicate internal structural elements, possibly ribs or stiffeners, running along the length of the component.
- Bottom Dimension:** 47.67 REF, indicating the length of the central straight section.

1) MATERIAL: 6061-T6 ALUMINUM SHEET 0.125 THICK  
PER AMS-QQ-A-250/111 OR AMS 4025 OR AMS 4027 OR ASTM B209  
REF. DART SPEC. M6061T6S.125

2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT "WHITE" (4.3.5.2) PER DART QSI 005 4.3

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX

6) IDENTIFICATION: NONE

7) WEIGHT: 1.81 lbs

DESIGN	<i>B</i>	<b>DART AEROSPACE USA, INC.</b> PORT HADLOCK, WA DRAWING NO. <b>D3499</b> TITLE <b>CABLE GUARD</b> COPYRIGHT © 2006 BY DART AEROSPACE USA, INC. <small>THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE USA, INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE USA, INC.</small>	REV. C
DRAWN	<i>RF</i>		SHEET 2 OF 4
CHECKED	<i>[Signature]</i>		SCALE
MFG. APPR.	<i>[Signature]</i>		NTS
APPROVED	<i>[Signature]</i>		
DE APPR.	<i>[Signature]</i>		
DATE	09.06.19		

**COPYRIGHT © 2006 BY DART AEROSPACE USA, INC.**  
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT  
NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

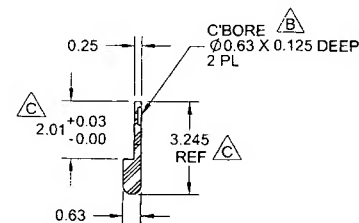
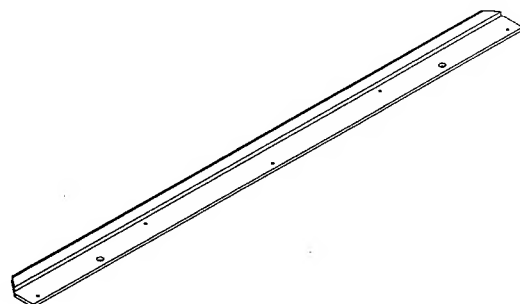
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

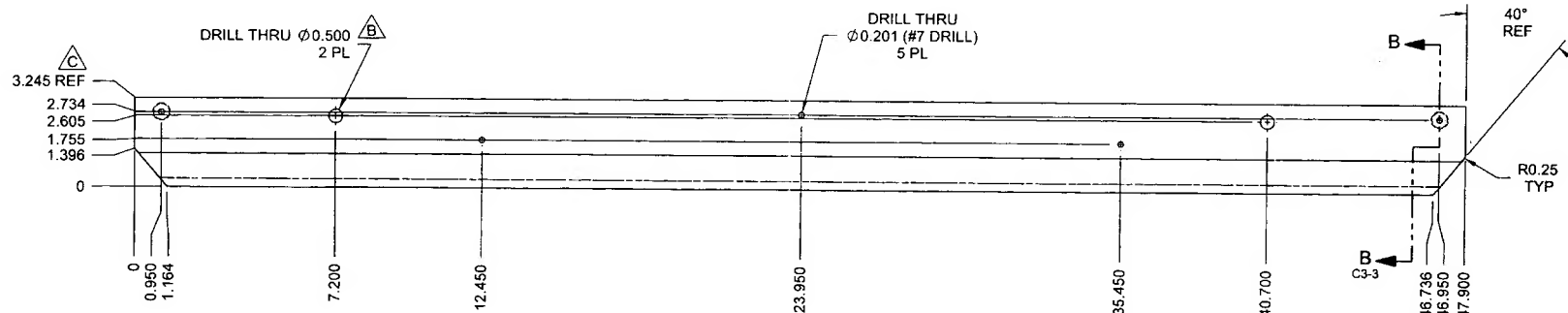
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





**SECTION B-B** B2-3








**D3499-3 CABLE GUARD**

**NOTES:**

- 1) MATERIAL: UHMW BLACK TIVAR 1000 VIRGIN MATERIAL  
REF: MUHMWB
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 2.52 lbs

**RELEASED**  
2010-02-02

DESIGN		<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3499	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CABLE GUARD	NTS
DATE	09.06.19	COPYRIGHT © 2006 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

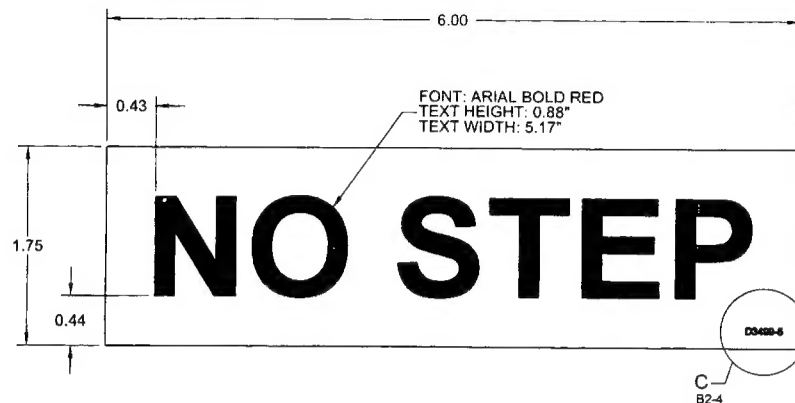
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

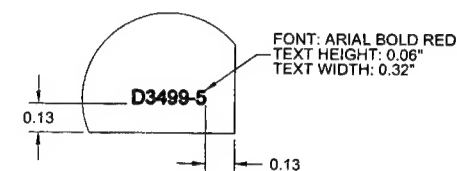
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

860035



**D3499-5 PLACARD**



**DETAIL C** B5-4  
SCALE 2X

**NOTES:**

- 1) MATERIAL: RED LETTERS ON WHITE ADHESIVE BACK VINYL  
MANUFACTURED FROM 3M 7 MIL MASKING FILM #8522CP OR  
AVERY IPM #2031. SIZE IS 6.00" LONG x 1.75" WIDE
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A

**RELEASED**  
2010-02-03

DESIGN	B	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	Y	DRAWING NO.	REV. C
MFG. APPR.	[Signature]	D3499	SHEET 4 OF 4
APPROVED	[Signature]	TITLE	SCALE
DE APPR.	[Signature]	CABLE GUARD	NTS
DATE	09.06.19	<small>COPYRIGHT © 2006 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries